

Notice of Allowability

Application No.

10/751,257

Examiner

Eric B. Chen

Applicant(s)

SUNG, KWON O.

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1765

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 20 April 2006.
2. ☒ The allowed claim(s) is/are 1-15.
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☒ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☒ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☒ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08), Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413), Paper No./Mail Date 5/15/06
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


SHAMIM AHMED
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with William Dockery on May 15, 2006. The application has been amended as follows: in the claims, cancel non-elected claims 16-20; for claim 1 delete "patternin9" and replace with -- patterning --.

Reasons for Allowance

3. Claims 1-15 are allowed

4. The following is an examiner's statement of reasons for allowance for claim 1: the prior art fails to teach or suggest forming a fourth layer on the second layer, which forth layer is doped *with dopant of the first type of conductivity* (emphasis added). The closest prior art, Cheek, discloses forming a fourth layer (116) on the second layer (110) (region 106A in Figure 6), *which fourth layer is doped with dopant of a second type of conductivity* (column 8, lines 4-13). However, there is no suggestion of motivation of forming a fourth layer on the second layer, which forth layer is doped with dopant of the first type of conductivity, as in the context of claim 1.

5. The following is an examiner's statement of reasons for allowance for claim 11: the prior art fails to teach or suggest providing a *n-doped* polysilicon layer over said

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undoped portion of said polysilicon layer. The closest prior art, Cheek, discloses forming providing a *p-doped* polysilicon layer (120A) over said undoped portion of said polysilicon layer (122A) (column 8, lines 44-47; column 8, lines 11-16; Figure 9); and providing an undoped polysilicon layer (120B) over said n-doped portion of said polysilicon layer (122B) (column 8, lines 47-51; column 7, lines 34-43; Figure 9). In other words, layers (120A) and (122B) are doped such as one is n-type and the other is p-type. However, there is not motivation or suggestion providing a n-doped polysilicon layer over said undoped portion of said polysilicon layer (i.e., layers (120A) and (122B) are doped such both are n-type), as in the context of claim 11.

6. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

7. Applicant's arguments (Applicants' Remarks, page 6), filed April 20, 2006, regarding the restriction requirement are persuasive with respect to both method claims 1-15 and integrated circuit claims 16-20 encompassing a polysilicon layer. However, the restriction requirement is still proper because the inventions are distinct. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process

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(MPEP § 806.05(f)). In the instant case, the integrated circuit can be fabricated with a materially different method, such as using the lift-off technique for patterning, rather than etching. However, in view of Applicant's cancellation of non-elected claims 15-20, the issue is moot.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric B. Chen whose telephone number is (571) 272-2947. The examiner can normally be reached on Monday through Friday, 8AM to 4:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nadine G. Norton can be reached on (571) 272-1465. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EBC
May 15, 2006



SHAMIM AHMED
PRIMARY EXAMINER